

WHAT IS CLAIMED IS:

1 1. A method for establishing a link on a shared communications channel
2 divided into a plurality of time slots, the method comprising the steps of:
3 establishing a synchronous communications link between a first and second
4 communication unit; and
5 communicating a first data packet on a first one of the set of time slots
associated with the synchronous communication link from the first communication
unit to the second communication unit by including an address associated with the
second communication unit in the first data packet.

10 2. The method of claim 1, wherein the step of establishing the synchronous
communications link further includes the steps of:
reserving a set of the plurality of time slots for use by the synchronous
communications link
separating each one of the time slots associated with the set by a fixed time
15 interval.

20 3. The method of claim 1, further comprising the steps of:
1 establishing an asynchronous communications link between the first
2 communications unit and one or more additional communications units including
3 the second communications unit using one or more remaining ones of the plurality
4 of time slots; and
5 communicating a second data packet on a first of the one or more of the
6 remaining time slots associated with the asynchronous communications link from
7 the first communication unit to the second communication unit by including an
8 ~~address associated with the second communications unit.~~

4. The method of claim 3, further including the step of interrupting the synchronous communications link with the asynchronous communications link by communicating the second data packet from the first communication unit to the second communication unit on a second one of the set of time slots associated with the synchronous communications link.

5. The method of claim 3, wherein the asynchronous link further includes a Time-Division duplex link and wherein the first communications unit alternately transmits and receives on different ones of the remaining time slots.

6. The method of claim 3, further including the steps of:
communicating the second data packet on one or more additional ones of the remaining one or more time slots from the first communication unit to the one or more additional units; and
polling each of the one or more additional units for a response packet to the second data packet.

7. The method of claim 6, wherein the asynchronous link further includes a Time-Division duplex link and wherein the one or more additional units alternately receive the poll from the first communication unit and transmit the response packet on different ones of the remaining time slots.

8. The method of claim 1, further comprising the steps of:
establishing a second synchronous communications link between a first and third communication unit; and
communicating a second data packet on a first one of the set of time slots associated with the second synchronous communication link from the first

communication unit to the third communication unit by including an address associated with the third communication unit in the second data packet.

9. The method of claim 8, further including the step of interrupting the second synchronous communications link with an asynchronous communications link by communicating the second data packet from the first communication unit to the third communication unit on a second one of the set of time slots associated with the second synchronous communications link.

10. The method of claim 1, wherein the plurality of time slots associated with the shared communications channel are further divided into a plurality of frequencies.

11. The method of claim 10, wherein the step of communicating further includes the step of communicating subsequent data packets on subsequent ones of the set of time slots associated with the synchronous communication link from the first communication unit to the second communication unit using different ones of the plurality of frequencies.

12. A communication system for establishing multimedia communications on a shared communications channel comprising:

a second communication unit; and

a first communication unit coupled to the second communication unit by

the shared communications channel, the first unit configured to:

establish a synchronous communications link with the second

communication unit, said synchronous link having a set of time slots associated

therewith; and

↑ communicate a first data packet on a first of ^a the set of time slots associated with the synchronous communication link to the second communication unit by including an address associated with the second communication unit in the data packet.

5 13. The communication system of claim 12, wherein the first communication unit is further configured to:

reserve a set of the plurality of time slots for use by the synchronous communications link

separate each one of the time slots associated with the set by a fixed time interval.

14. The communication system of claim 12, further comprising one or more additional communications units including the second communications unit; and

wherein the first communication unit is further configured to:

15 establish an asynchronous communications link between the first communications unit and the one or more additional communications units using one or more remaining ones of the plurality of time slots; and

20 communicate a second data packet on a first of the one or more of the remaining time slots associated with the asynchronous communications link from the first communication unit to the one or more additional communication units by including one or more addresses associated with each of the one or more additional communications units.

15. The communication system of claim 14, wherein the first communication unit is further configured to interrupt the synchronous communications link with the asynchronous communications link by communicating the second data packet

from the first communication unit to the second communication unit on a second one of the set of time slots reserved for the synchronous communications link.

5 16. The communication system of claim 14, wherein the asynchronous link further includes a Time-Division duplex link and wherein the first communications unit is further configured to, alternately transmit and receive on different ones of the remaining time slots.

17. The communication system of claim 14, wherein the first communication unit is further configured to:

10 communicate the second data packet on one or more additional ones of the remaining one or more time slots from the first communication unit to the one or more additional units; and

 poll each of the one or more additional units for a response packet to the second data packet.

15 18. The communication system of claim 17, wherein the asynchronous link further includes a Time-Division duplex link and wherein the one or more additional units alternately receive the poll from the first communication unit and transmit the response packet on different ones of the remaining time slots.

19. The communication system of claim 12, further comprising a third communication unit;

20 wherein the first communication unit is further configured to:
 establish a second synchronous communications link with the third communication unit, said second synchronous link having a set of time slots associated therewith; and

communicate a first data packet on a first of the set of time slots associated with the synchronous communication link to the second communication unit by including an address associated with the second communication unit in the data packet.

20. The communication system of claim 12, wherein the plurality of time slots associated with the shared communications channel are further divided into a plurality of frequencies.

21. The communication system of claim 20, wherein the first communication unit is further configured to communicate subsequent data packets on subsequent ones of the set of time slots associated with the synchronous communication link from the first communication unit to the second communication unit using different ones of the plurality of frequencies.

22. A master communication unit in a communication system having a shared communications channel divided into a plurality of timeslots, the master communication unit comprising:

a transceiver for transmitting and receiving data packets over said shared communication channel; and

a processor coupled to the transceiver, the processor configured to:

reserve one or more sets of the plurality of timeslots to establish one or more synchronous communications links thereupon;

establish one or more asynchronous communications links on the remaining ones of the plurality of timeslots; and

cause said transceiver to use one or more destination addresses when transmitting data packets over said communications channel on said one or

more synchronous communications links and said one or more asynchronous communications links.

23. The master communication unit of claim 22, wherein the processor is further configured to:

interrupt the one or more synchronous communication links by causing the transceiver to transmit one or more asynchronous data packets to one or more destinations specified by one or more of the one or more destination addresses.

24. The master communication unit of claim 22, wherein the one or more synchronous and the one or more asynchronous communications link further comprise Time Division Duplex links.

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